

Unlocking Funding and Finance for Urban Green Spaces Thursday 28 November 2024

Agenda

13:30-13:35	Welcome and Housekeeping
13:35-13:45	Introduction to green funding and
	finance

13:45-14:05 **Plymouth City Council:** Chris Avent

14:05-14:25	Urban Biodiversity Standard: Sara			
	Eppel			
14:25-14:55	Panel Discussion			
15:55-15:00	Close and Next Steps			



Helpful Information

- Please submit **questions** for the panel using the Q&A feature throughout the presentations.
- Automatic captioning is turned on, you can adjust this in the settings at the bottom of your screen.
- If you have any technical questions or issues, please let us know the details in the chat and we can help you.
- This session is being recorded and will be available via our website in the coming days.



What is Nature Towns & Cities



- A programme to help 100 towns and cities across the UK transform access to green space
- Overall goal is for millions more people to be able to enjoy time outdoors in nature close to home
- Help address the challenges facing towns and cities in C21st
- Create greener, fairer, healthier and more connected towns, cities and neighbourhoods
- Access support to put green infrastructure at the heart of future plans, priorities and investment
- Unlock further investment to help councils and communities achieve their ambitions
- Founded by National Lottery Heritage Fund, Natural England & National Trust
- Working closely with NatureScot, Natural Resources
 Wales & Northern Ireland Environment Agency.
- This is an invitation to join in, shape it, lead for change

Inclusive Network



Sign up to the events and the mailing list via the website www.naturetownsandcities.org.uk

Designed to build confidence, capability and connection Open to all, and free to be a member.

- Provide access to knowledge and successful solutions
- Connect with experienced professionals
- Enable collaboration and partnership
- Access to specialist support and advice to solve problems and unlock opportunities
- Help to lead for change, tap into collective wisdom
- Part of something bigger

For local government, community organisations, charities and professionals across the UK.

You'll be helped by your peers, sharing what works and able to take part in varied programme of events, cohort activities and training, a library of resources, as well as tailored support.

This is an open invitation to join the Nature Towns and Cities Network.

Unlocking Funding and Finance for Urban Green Spaces

1939, the median size of a neighbourhood's nearest park was around 61,500 m2. The equivalent figure for developments dominated by post-2000 housing is 36,200 m2 - a 40% decline. New Economics Foundation 2022.

© Phyllis Nicklin







National Trust It is estimated that the proportion of England's urban areas made up of green space declined from 63% in 2001 to 55% in 2018 (Committee on Climate Change. (2019).

© Mylo Kaye







National Trust The majority of the 2.7 million properties currently at risk of flooding from rivers and the sea are in urban areas. Environment Agency, Chief Scientist's Group. (2021)







2 out of 3 people don't have access to even a small area of amenity greenspace (0.5ha) within 200m of home. Natural England's unpublished Green Infrastructure mapping (2021)

© BBC News





National Trust



There is extensive empirical evidence of the association between exposure to nature and physical health. Natural England Evidence Information Note EIN066, 2022.

© blvdone









Mental ill health is the single largest cause of disability in the UK, contributing up to 22.8% of the total burden.

No health without mental health. Department of Health

© blvdone







National Trust

Legislative mechanisms in the 2021 Environment Act offer new ways to increase the quantity and quality of urban green space.

Natural England written submission to the EFRA Select Committee, 2024.

© Dave Wood









Opportunity #1: Implementing Green Finance Solutions







National Trust

Green Finance Solutions



Draft outcomes by 2034:

Habitat Banking Toolkit

- Maximising the benefits of BNG income
- Transforming a cost centre into a profit centre
- Education material
- How to Resources
- Learning Hub
- Future solutions learning and development modules:-
 - Trees
 - Retrofit
 - Flood/SUDS
 - Health
 - Social









Example Token: Climate Bundle

	Later Later	
	Overview	A token that is based on interventions to sequester carbon, alleviate urban heat island effects and reduce flooding risk.
_	Make-up	 Climate resilient tree canopy Tree based Sustainable Urban Drainage General urban tree planting
-0	Verification and Validation with Code	• Yes
	Typical Urban Greening Factor (UGF)/m2	• 0.4 UGF/m2
X		Real Provide Land

Example Token: Wellbeing Bundle

Overview	A token that is based on interventions that give both wellbeing benefits (stress reduction, cognitive performance) and health benefits (mental health, physical health)			
Make-up	 Parks and greenspaces Connected Green Spaces Outdoor classrooms Green Community Hubs 			
Verification and Validation with Code	• Yes			
Typical Urban Greening Factor (UGF)/m2	• 0.35 UGF/m2			

Innovative models and mechanisms

- Port established finance mechanisms to the Urban environment (e.g. tree planting, flood prevention).
- Support a growing ecosystem of Urban greening advocates to flourish.
- Establish Urban Greening Codes that are complimentary with BSI nature standards and build broad coalition of support for them, across UK.
- Catalyse Urban greenspace outcomes bundles (e.g. street greening, water, climate, health.
- Encourage Urban greenspace tokens



Opportunity # 1: Chris Avent Opportunity # 2: Sara Eppel







National Trust



Ocean City Nature: Generating dividends for people, places, and nature



Ocean City Nature Generating dividends for people, place and nature



- 1. Taking a systems leadership approach
- 2. Creating a vision
- 3. Opportunity assessment
- 4. Habitat Bank development
- 5. Key Learning
- 6. Areas in development



Ocean City Nature – Plymouth City's Council green finance vehicle

Vision: Creating a resilient, accessible, natural environment across the city

A replicable, scalable funding ecosystem for investment in green and blue assets and sustainable enterprises delivered through a public-facing entity delivering direct environmental benefits, vital services, boosts to the local economy, a sense of place

- all catalysing further innovation.







Integration is essential



Green and blue spaces deliver multiple services for urban environments and support sustainable growth:

Benefits

- Health and well-being
- Attainment and skills development
- Climate resilience
- Attractive place for investment.
- Active transport routes.
- Social cohesion

Multiple Benefits = Great value investment



Playing to our strengths

Investment opportunity – new forms and scale

Delivering across multiple local agendas

Supporting and enabling growth



Taking a Systems Leadership approach to delivering nature-based solutions

Key workstreams – Asset focused

- Mapping and data developing digital assets
- Policy hooks and tools setting clear strategy
- Stakeholders from across communities in the city
- Skills Creating a 21st Century parks and nature recovery workforce
- Sustainable Finance Innovation and building from our starting point. Reliant on funding model incorporating and being creative with grants, S106 and core revenue funds to maximise impact.



Our challenge:

How to evolve and sustain this work?





Establishing a vision

Nature Investment - Our City Vision

Plymouth, Britain's Ocean City – Pioneering a citywide approach to urban nature to support delivery of the City vision and meet environmental challenges head on. This will be achieved by:

- Integrating nature as key mechanism for achieving an outstanding quality of life for all, enabling a high-quality natural environment to support and enhance people's health and well-being.
- Activating spaces and empowering communities to be part of the movement and have pride in their places.
- Ensuring Plymouth is working with nature to reduce carbon, become resilient to the unavoidable impacts of climate change and ensures no one is left behind.
- Leading the way in developing and integrating green financing and new funding models to deliver nature-based solutions that benefit people, planet and place.
- Delivering for Plymouth, inspiring nationally.





Opportunity assessment - Strategically Coordinating Opportunities Across Plymouth

Plymouth City Council has been working to unlock investment into parks and open space since 2020 through the Future Parks Accelerator and NEIRF programmes, in partnership with Finance Earth.

Mapping highlighted both *opportunities for naturebased intervention* and *key areas in need of investment to mitigate / adapt to the climate crisis*.

Through this partnership, PCC *identified a number of natural capital-based opportunities, and prospective operating / financing models* through which to unlock them, spanning Plymouth's Green and Blue infrastructure.







				Benefits for PCC Green Estate	
Funding vehicles and opportunities	Financial scale	SDGs	Carbon reduction	Job creation	Funding for parks estate
Enterprise Investment Fund	f 🖒 ff		$\bigcirc \bigcirc \bigcirc \bigcirc$	$\bigcirc \bigcirc \bigcirc \bigcirc$	$\bigcirc \bigcirc \bigcirc \bigcirc$
Multi-Asset Fund	££ ➡ £££		$\bigcirc \bigcirc \bigcirc \bigcirc$	$\bigcirc \bigcirc \bigcirc \bigcirc$	$\bigcirc \bigcirc \bigcirc \bigcirc$
Parks Property Management Vehicle	ft 🖨 ftf	8 minimum M	$\bigcirc \bigcirc \bigcirc \bigcirc$	$\bigcirc \bigcirc \bigcirc \bigcirc$	$\bigcirc \bigcirc \bigcirc \bigcirc$
Habitat Bank Vehicle	££££	13 that 14 that was 15 that 15 that 14 that was 15 that 15 tha	$\bigcirc \bigcirc \bigcirc \bigcirc$	$\bigcirc \bigcirc \bigcirc \bigcirc$	$\bigcirc \bigcirc \bigcirc \bigcirc$
Carbon Fund	ft 🖨 fff		$\bigcirc \bigcirc \bigcirc \bigcirc$	$\bigcirc \bigcirc \bigcirc \bigcirc$	$\bigcirc \bigcirc \bigcirc \bigcirc$
Renewables Fund	£££¢	9 de anciente 11 de anciente 13 de anciente 2000000000000000000000000000000000000	$\bigcirc \bigcirc \bigcirc \bigcirc$	$\bigcirc \bigcirc \bigcirc \bigcirc$	$\bigcirc \bigcirc \bigcirc \bigcirc$
BID and Blue Bond	£ 🗭 ££	B de antenires B de antenires B de antenires B de antenires B de antenires B de antenires B de antenires	$\bigcirc \bigcirc \bigcirc \bigcirc$	$\bigcirc \bigcirc \bigcirc \bigcirc$	$\bigcirc \bigcirc \bigcirc \bigcirc$
Parks Management Vehicle	ft 🖒 ftf	3 Internetion 	$\bigcirc \bigcirc \bigcirc \bigcirc$	$\bigcirc \bigcirc \bigcirc \bigcirc$	$\bigcirc \bigcirc \bigcirc \bigcirc$
EIB	£££		$\bigcirc \bigcirc \bigcirc \bigcirc$	$\bigcirc \bigcirc \bigcirc \bigcirc$	$\bigcirc \bigcirc \bigcirc \bigcirc$
£<£5 million </td					



Ocean City Nature

Ocean City Nature – enabling growth in Green Finance







Why a habitat bank?

ISSUES

- Budget pressures across the Authority including for maintaining natural spaces.
- Enhanced duty towards natural environment
- Environment Act creates a new market for biodiversity units replacing existing payments for mitigation locally.
- Requirement to maintain habitats enhanced for minimum of 30 years
- Interaction of new BNG duty with affordable housing delivery targets and need

SOLUTIONS

- Turning financial liabilities into a self-sustaining, income generating assets over long-term.
- Supplying biodiversity units captures the income generated for Plymouth's nature and people.
- ✓ Offers more control over site specific biodiversity
- Credible local offer for developers: providing low friction: high integrity offer for developers







Principles





FOUNDATIONAL PRINCIPLES

- Ensure additionality is achieved.
- Create proactivity, joined-up approach to offsetting.
- Create a robust governance framework.

- Be transparent and accountable.
- Ensure routine monitoring and measurement using clear and measurable metrics.







Unitary Authority

Governance role: Ultimate control over business plan and strategic direction of vehicle.

Governance Function: Corporate Management Team

Company Limited by Guarantee

Strategic vehicle for HBV continuity beyond HBV and other Green Finance Activity. Distribution and reinvestment of surpluses **Governance role:** Decision making over operational objectives including sign off of sales

Governance Function: Board of PCC representatives, supported by economic and environmental stakeholders

Operating and Investment vehicle for three pilot sites. **Governance role:** Operational only, majority of decisions reserved for HoldCo/PCC. Time limited.

Governance Function: Operational board, 3rd party Investor representatives.



Making the business and investment case

18 months to achieve 3 Executive DecisionsWorking group across 5 key Departments

Nov 21 - Options assessment recommended an arms-length vehicle to act as Habitat Bank.

Mar 22 - Detail and recommendations of company structure and governance arrangements.

June 23 - Business Case for investment from PCC to secure £0.5m.

Key Processes included:

- Familiarisation and explanation of concept of habitat banking to officers and members.
- Scrutiny session (Feb 22) with Governance Committee due to novel and innovative approach.
- Soft testing with known developers links to development of demand modelling



What did our supply and demand assessment tell us?

29 supply sites were initially assessed - covering378 ha of land. Capacity for 780 BUs to be delivered.

This valued the potential revenues across these sites at **£17.548m.**

Now have an additional **33 supply sites** surveyed and to be assessed – covering **354 ha** of land.

30 demand sites were assessed - covering **135 ha** of land supporting **530 BU**s.

This valued the potential revenues across this estate in terms of BUs where development could be realised at **£11.925m**.

Why was this important?

- Gave a strong illustration of the scale of opportunity of time in terms of revenues.
- Provided strong rationale for Business
 Case development demand existed.
- Tied together the fact that a credible costeffective Habitat Bank is a positive for a local area and its development aspirations and targets.
- Sense checked that supply and demand would be proportionate each other.





Business model summary – 30 years

САРЕХ			OPEX
Item	Costs	Costs	Item
	(Loan)	(External)	Project Maintenance
Project Development	£99,391		lafa atau atau a
BU Deliverv	£372.476		Intrastructure cont.
Vehicle Development		f61.867	Total Loan Servicing
Development	£28 133	202,007	PCC Management
Contingency	120,133		External services
Total	£500,000	£61,867	Insurance and Audit
Income generated.			Corporate Tax
BU No. 277	@ Average £25,000		Total

PCC is the first 'investor' in the habitat bank, providing £500k through PWLB as a repayable loan to deliver biodiversity units on three sites.



Cost

£5,014,549

£427,427

£703,683

£335,429

£219,293

£313,311

£387,321

£7,401,011

Internal stakeholders





Partnerships – People and Communities



Credit: Chris Parkes Photography

'If we are doing it alone, we are doing it wrong'





key learning and recommendations for success

Journey length and intensity

- It is easy to underestimate the journey necessary to unlock a new way of working Green Finance and the mindset shift, training and upskilling required to bring all stakeholders along on the journey
- Procurement of external legal and tax advice can be time-consuming, causing delays, start early.

Stakeholder engagement

- The core project team need a Project **Sponsor** at a senior enough level to influence.
- A wide range of stakeholders from internal teams need to be co-opted to reach investment readiness.
- Identify strengths of different stakeholders ensuring early involvement to expedite decision making, help build the business case, adapt the project and influence others.

Building Integrity and Common Purpose

- This model requires a careful balance between public access while delivering the target habitat condition. All activity needs to be **costed accurately** into the delivery model.
- Build **principles** at early stage by consensus as a touchstone for decision making.
- Local Authorities are attuned to place-based priorities and can shape BNG projects to align with city strategy

What next?

Ocean City Nature: Just the beginning but by 2030..

- Huge progress innovating in nature-based solutions supporting the city and our people
- Physical interventions biodiversity gain, SUDs features installed, active travel routes
- Inclusive delivery new relationship & delivery model
- Career and skills opportunities expanded and sustainable
- Enhanced 'Pride in Place' with new funding models embedded as BAU
- Enable us to plan and deliver natural infrastructure within equivalent systems as 'grey infrastructure' – a green finance revolution

Habitat Bank

- Making first Sales interest from developers
- Work on the ground underway on all 3 sites
- People and businesses in Plymouth value the role of urban nature and recognise the role of OCN







For more detailed information Webinar Series – www.futureparksaccelerator.notion.site

Credit: Chris Parkes Photography

Contact: <u>oceancitybodiversity@plymouth.gov.uk</u>





NATURESPEOPLE FOUNDATION





Sara Eppel saraeppel@natureandpeople.org

CONNECTING NATURE WITH PEOPLE



SUMMARY

- Who we are
- The Urban Biodiversity Standard: science, solutions for cities' challenges
- Our pilot projects
- Generating high integrity Credits





Nature & People Foundation

Connecting nature with people.

OUR VISION

To connect nature with people and build greener infrastructure.

OUR MISSION

To help cities promote and align investment in biodiversity with their social and economic needs.

Nature & People Foundation is an independent, nonprofit organization registered and incorporated under the laws of United Kingdom.

CITIES ARE ON THE FRONT LINE OF CLIMATE CHANGE NATURESPEOPLE

Extreme weather

events

Cities considered "highly exposed" to natural hazards (cyclones, floods, drought, landslides)

Thermal

increases

Increase in air temperatures in cities compared to surrounding areas

Economic

risk

Global GDP from cities estimated to be at risk of disruption from nature loss (*WEF*)



Population health

Premature deaths caused by ambient pollution each year

Climate risk

The number of people at high or extreme risk from natural hazards due to climate change in urban areas

pollution Of the world's population breathes polluted air



THE BENEFITS OF URBAN BIODIVERSITY

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• Improves air quality

- **Promotes** thermal comfort, reduces "heat island" effect
- Absorbs and Diffuses noise
- **Regulates** flooding and runoff, reduces erosion
- Improves resilience of city ecosystems
- **Regulates** populations of harmful pests
- Mitigates climate change, stores carbon dioxide
- Reduces stress, promotes physical and mental health

Urban Biodiversity Credits help cities deliver against Global Biodiversity Framework targets 11 and 12, and the Sustainable Development Goals

URBAN BIOODIVERSITY STANDARD: SCIENTIFIC BASIS



THE DATABASE

• Includes the metabolic capacities of the majority of the most common species in cities.

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• Demonstrates how different species deliver different ecosystem services.

THERMAL AND RADIATIVE COMFORT

Species	Height (m)	Shading Area (sq mts)	Tª Decrease (%)	Increase of HR (%)	UVA Attenuation (%)
Aesculus hippocastanum	8	28,20	33,33	20	76,47
Brachychiton aceryfolium	8	23,01	33	39,7	72,41
Casuarina equisetifolia	12	14	26,89	25,8	85,11
Catalpa bignonioides	8	79,26	31,76	40,2	95,13
Olea europea	7	34,71	24,12	22,9	92,96
Pyrus bourgeana	6	33,75	30,03	26,4	69,3



RIO DE JANEIRO'S PRIORITY: TACKLING EXCESS HEAT



Two studies of the heat island effect in Rio show northern and western parts of the city suffer higher incidences of mortality and morbidity^{*} during heat waves

*Health Effects of Heat Vulnerability in Rio de Janeiro: A Validation Model for Policy Application.' Diogo Prosdocimi; Kelly Klima CAPA Strategies "Heat Watch Report, Rio de Janeiro"

RIO DE JANEIRO'S PRIORITY: TACKLING EXCESS HEAT

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Current green spaces are concentrated in the south. Rio Prefeitura's ambition is for 25 new parks in the city in areas of social deprivation.

New parks will offer shade, wellbeing and thermal comfort.

ISLAND OF FORMENTERA'S PRIORITIES: EXCESS HEAT; SUSTAINABLE TOURISM



More speciesspecific vegetation will reduce heat, provide shade and thermal comfort.

A greener island will improve local communities' and tourists' experience.

Source: AgForest. Satellite Ddata

NATURES PEOPLE



NAIROBI CITY COUNTY'S PRIORITIES: FLOOD PREVENTION AND REDUCING AIR POLLUTION



Both priorities can be tackled by planting the right species of trees and shrubs

Source: Reuters

SCIENTIFIC ANALYSIS

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Extensive field and laboratory research is undertaken to assess the ecosystem services delivered by indigenous trees

TRA

Annual CO₂ absorption

Is measured in a controlled chamber

Pollutant capture

In a controlled chamber the tree's ability to absorb NO2, NO, CO, SO2, PM10, PM2.5 is measured

Water use efficiency

At a range of temperatures is measured

30 individuals of each tree species measured

Height, crown width, area, DBH, leaf area and index, light extinction

Leaves scanned

To measure surface area and biomass

Thermal tolerance, and thermal comfort

Tolerance of each species is measured, and thermal comfort for humans in project area

ECOSYSTEM SERVICES DELIVERED

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Parque Piedade & Parque Oeste	Temperature reduction (%)	Humidity increase (%)	UVA and UVB+C attenuation (%)
Terminalia catappa	33,33	20,00	76,47
Senna multijuga	29,30	28,39	80,84
Schinus terebinthifolia	27,66	23,80	92,40
Libidibia ferrea	29,30	28,39	80,84
Cenostigma pluviosum	32,16	30,40	77,80
Magnífera índica	30,20	28,20	79,92
Cariniana legalis	18,11	25,40	91,50
Handroantus heptaphyllus	30,20	27,80	99,37
Eugenia uniflora	34,24	35,30	63,27
Syagrus romanzoffiana	34,20	42,60	76,40

IMPORTANT FACTORS

- thermal resilience
- drought tolerance
- root development
- crown size
- presence in the parks under study
- presence and frequency of the species in the city

Choice of tree and shrub species is key, to optimize the ecosystem services that they could provide.



Using the Standard to generate Credits

(Consultation on the Standard starting shortly)

- 1. Stakeholder Engagement and Assessment of Social Needs and Opportunities thermal comfort, air quality, climate, surface water flooding, erosion, health
- 2. Baseline mapping and measurement tree and shrub species stock, range of biodiversity and resilience
- **3.** Tree testing and biodiversity selection To deliver ecosystem services needed + adaptation and resilience to climate change. Influenced by ecological history of the land
- 4. Urban Biodiversity Credits increase of biodiversity and ecosystem services.

If biodiversity is not maintained, no Biodiversity Credits are generated.

HIGH INTEGRITY CREDITS





Annually three measurements of tree :

- Diversity
- Abundance
- Resilience

Annual improvement in100m² of vegetative coverage = **1 Biodiversity Credit**

(ecosystem services value is integrated into the price of the Credit)

OR 1 Ecosystem Services Credit

Monitoring, Reporting and Verification measures growth and habitat change:

- satellite
- local monitors (for Diameter at Breast Height),
- bioacoustics (for pollinators, bats, birds),
- camera traps (mammals).

All data on blockchain. Independent 3rd party verification. In areas of deprivation a **Social Seal** is awarded.

SUSTAINABLE FINANCING PLAN – POSSIBLE OPTIONS FOR CITIES



Credits as an income source for cities

- € € £
- **Sales** of credits: local businesses licence to operate, ESG reasons, pension funds, impact investors, social tokens, individual citizens
 - **Swaps:** debts to Multi-lateral Development Banks could be retired in exchange for Credits
 - **Substitution:** Credits (i.e. the cash equivalent sold forward via an interest-rate swap) are used in exchange for paying interest on a debt.
 - **Security**: the proceeds of credit sales can be used to secure financing on superior terms than unsecured borrowing
 - **Sustainability-linked finance**: the Credits' measurement, reporting and verification systems can generate KPIs which, if achieved, could allow for additional borrowing relief
 - **Savings vehicle:** Governments could create retail products, whereby savers in a Government saving scheme receive a Credit

SUSTAINABLE FINANCING PLAN - POSSIBLE OPTIONS FOR CITIES

NATURE FINANCE

Building blocks to design the optimal financing strategy



PILOTS



PILOTS

Urban Biodiversity Standard for cities, peri-urban areas and islands.

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Pilots:

- Rio de Janeiro (underway)
- Formentera (underway)
- Nairobi (starting)
- Seville (starting)
- Manaus (in discussion for COP30)

Expressions of interest from cities welcome

PILOTS



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CONNECTING NATURE WITH PEOPLE

Panel Discussion

Please use the Q+A feature to ask your question.

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Thank you!

Sign up to the mailing list to be the first to hear more information about the programme including resources and events via the website: **naturetownsandcities.org.uk**

If you want to get in touch, please email info@naturetownsandcities.org.uk